



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Group Art Unit: 1762

Serial No.: 10/811,230

Confirmation No.: 8995

Examiner: Unknown

Filed: March 26, 2004

For: Ruthenium Layer
Formation for Copper Film
Deposition

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Kevin R. [Signature]
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Dear Sir:

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The Applicants, and the Attorney who signs below on the basis of the information supplied by the inventor and the information in his file, submit herewith patents, publications, or other information of which they are aware, which may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR § 1.56.

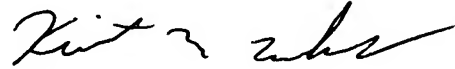
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The patents and/or publications submitted herewith are set forth on the attached Form PTO-1449.

If the sum of \$180.00 is due under 37 CFR § 1.17(p) pursuant to § 1.97, the Commissioner is hereby authorized to charge this fee, and any other fee necessary to make this submission timely, to the Deposit Account No. 20-0782/AMAT/5975.P2/KMT.

Respectfully submitted,



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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

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of

2

Application Number	10/811,230
Filing Date	March 26, 2004
First Named Inventor	Ganguli, et al.
Group Art Unit	1762
Examiner Name	Unknown
Attorney Docket Number	AMAT/5975.P2/CPI/L/B/PJS
Submission Date	September 20, 2004

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US-6713373	03/30/2004	Omstead	
	A2	US-6617634	09/09/2003	Marsh, et al.	
	A3	US-6610568	08/26/2003	Marsh, et al.	
	A4	US-6605735	08/12/2003	Kawano, et al.	
	A5	US-6596602	07/22/2003	Iizuka, et al.	
	A6	US-6580111	06/17/2003	Kim, et al.	
	A7	US-6527855	03/04/2003	De La Rosa, et al.	
	A8	US-6482740	11/19/2002	Soininen, et al.	
	A9	US-6479100	11/12/2002	Jin, et al.	
	A10	US-6440495	08/27/2002	Wade, et al.	
	A11	US-6423619	07/23/2002	Grant, et al.	
	A12	US-6462367	10/08/2002	Marsh, et al.	
	A13	US-6365502	04/02/2002	Paranjpe, et al.	
	A14	US-6063705	05/16/2000	Vaarstra	
	A15	US-5962716	10/05/1999	Uhlenbrock, et al.	
	A16	US-5372849	12/13/1994	McCormick, et al.	
	A17	US-20030165615	09/04/2003	Aaltonen, et al.	
	A18	US-20030096468	05/22/2003	Aaltonen, et al.	
	A19	US-20020173054	11/21/2002	Kim	
	A20	US-20020125516	09/12/2002	Marsh, et al.	
	A21	US-20020121697	09/05/2002	Marsh	
	A22	US-20020102810	08/01/2002	Iizuka, et al.	
	A23	US-20020081381	06/27/2002	Marsh, et al.	
	A24	US-20020076881	06/20/2002	Marsh, et al.	
	A25	US-20020074577	06/20/2002	Marsh, et al.	
	A26	US-20020028556	03/07/2002	Marsh, et al.	
	A27	US-20020025627	02/28/2002	Marsh, et al.	
	A28	US-20020004293	01/10/2002	Soininen, et al.	

Examiner

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		Number-Kind Code ² (if known)			
	A29	US-20020000587	01/03/2002	Kim, et al.	
	A30	US-20010054730	12/27/2001	Kim, et al.	
	A31	US-20010006838	07/05/2001	Won, et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	B1	WO 01/88972	11/22/2001			
	B2	JP 2001-237400	08/31/2001			
	B3	JP 2001-111000	04/20/2001			

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
	C1	Aaltonen, <i>et al.</i> , "Atomic Layer Deposition of Ruthenium from RuCp ₂ and Oxygen: Film Growth and Reaction Mechanism Studies," <i>Electrochemical Society Proceedings Volume 2003-08</i> pp. 946-953.	
	C2	Aaltonen, <i>et al.</i> , "Atomic Layer Deposition of Ruthenium Thin Films from Ru(thd) ₃ and Oxygen," <i>Chem. Vap. Deposition</i> (2004), 10, No. 4 pp. 215-219.	
	C3	Aaltonen, <i>et al.</i> , "Ruthenium Thin Films Grown by Atomic Layer Deposition," <i>Chem. Vap. Deposition</i> (2003), 9, No.1 pp.45-49.	
	C4	Aoyama, <i>et al.</i> ; "Ruthenium Films Prepared by Liquid Source Chemical Vapor Deposition Using Bis-(ethylcyclopentadienyl)ruthenium," <i>Jpn. J. Appl. Phys.</i> Vol. 38 (1999) pp. L1134-L1136.	
	C5	Dadgar, <i>et al.</i> , "Growth of Ru doped semi-insulating InP by low pressure metalorganic chemical vapor deposition," <i>Journal of Crystal Growth</i> 195 (1998) pp. 69-73.	
	C6	Kwon, <i>et al.</i> , "Atomic Layer Deposition of Ruthenium Thin Films for Copper Glue Layer," <i>Journal of the Electrochemical Society</i> , 151 (2) (2004) pp. G109-G112.	
	C7	Kwon, <i>et al.</i> , "Plasma-Enhanced Atomic Layer Deposition of Ruthenium Thin Films," <i>Electrochemical and Solid-State Letters</i> , 7 (4) (2004) pp. C46-C48.	
	C8	Lashdaf, <i>et al.</i> , "Deposition of palladium and ruthenium β -diketonates on alumina and silica supports in gas and liquid phase," <i>Applied Catalysis A: General</i> 241 (2003) pp. 51-63.	
	C9	Lim, <i>et al.</i> , "Atomic layer deposition of transition metals," <i>Nature Materials</i> , Vol. 2 November (2003) pp. 749-754.	
	C10	Shibutami, <i>et al.</i> , "A Novel Ruthenium Precursor for MOCVD without Seed Ruthenium Layer," <i>TOSOH Research & Technology Review</i> , Vol. 47 (2003) pp. 61-64.	

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